M172-i IR Durable Tag

RF Code™
Product Data Sheet

With its highly durable, sonically welded case, the M172-i Durable IR Tag is specially designed to provide room-level location accuracy in rugged or environmentally exposed locations.

Features & Benefits

- *Encoded Radio Transmissions at 433 MHz*
- *IR-enabled for Room-Level Location Accuracy*
- *Water-resistant Sonic-Welded Enclosure*
- *Customizable Beacon Rates*
- *Low Power Consumption for Long Battery Life*
- *Superior Anti-Collision Technology for High Tag Densities*
- *Compatible with A740 Rack Locator and A750 Room Locator Operating with Series 2 Protocol*

The 433 MHz M172-i IR Durable Tag is a battery-powered RF transmitter designed with a sealed, water-resistant, crush-proof enclosure for general-purpose asset tracking. Every tag broadcasts its unique ID and a status message at a periodic rate (that is programmed at the factory). These tags provide an economical solution for a variety of asset tracking environments. RF Code's patented communication protocols support high tag densities that allow large populations of tags to be deployed in confined spaces.

M172-i IR Durable Tags are equipped with on-board infrared (IR) and motion sensors. This family of tags is designed to be deployed in concert with RF Code's IR Room Locators. IR-enabled tags monitor their environment for incoming IR signals and periodically report both their own unique ID and IR location codes. Motion activation allows the tag operate at 2 beacon rates: slow when the tag is stationary, and faster when the motion sensor is activated. This provides a method for rapidly locating mobile assets with room-level accuracy. Since location is determined via the IR room code, there is no need for deploying multiple overlapping readers or performing complicated signal strength calculations or triangulation algorithms to determine tag location.

M172-i IR Durable Tags are impact-resistant, splash-resistant and temperature stable. Labels are sealed on the inside of the clear polycarbonate enclosure via sonic-welding at the point of manufacture. This protects both the label and the electronics from moisture and fluids. The durable enclosure provides a degree of protection in harsh environments; it can withstand salt water splashes, cleaning solutions, germicides, disinfectants, etc. This enclosure design has been evaluated for compliance with Ingress Protection Rating 54 (IP54).

Powered by a coin cell battery, the M172-i tag will perform reliably in extreme temperature environments (from -20 to +70 degrees Celsius). In addition, the tag performs well after exposure to humidity and hot/ cold cycles. The tag operates with a very low duty cycle that translates to long battery life (typically > 4 years).

M172-i IR Durable Tags feature a wear-and-tear resistant, sonically welded enclosure that is especially suitable for use in rugged, environmentally exposed deployments.

RF Code M172-i IR Durable Tag Specifications

OPERATION	
Operating Frequency	433.92 MHz
Group Code & Tag ID Codes	> 540,000 unique IDs per Group Code
Typical Transmission Range	up to 300 ft
Radiated Emissions	71.8 dBuV/m at 3 meters (maximum)
Modulation	ASK
Stability	Saw stabilized
Onboard Sensors	Infrared, Motion
Sensor Otions	Tamper

ENCLOSURE	
Case Length	1.770 in (44.95 mm)
Case Width	1.330 in (33.78 mm)
Case Height	0.441 in (11.20 mm)
Case Weight (with tag)	.52 oz (14.7 g)
Material	Polycarbonate
Durability	Tough, impact resistant and temperature stable
Mounting Options	Adhesive pad (included)

IR COMPATIBILITY	
Rack Locators	RF Code A740 with Series 2 Protocol
Room Locators	RF Code A750 with Series 2 Protocol

ENVIRONMENTAL	
Operating Temperature	-20° C to +70° C
Storage Temperature	-40° C to +80° C
Operating Humidity	< 95% RH non-condensing; not recommended for outdoor applications
Sealing	Sonically welded: Resistant to moisture, fluids and rigorous cleaning procedures

POWER	
Battery Type	Lithium CR2032 coin cell
Smart Tag Feature	Low battery indication
Battery Life	> 4 years (nominal)*

* Battery life measured at 2-second motion beacon interval/12.5 second static beacon interval with 10% motion over the life of the tag.

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